

CLAIMS

1. A wireless communications system which uses at least two kinds of wireless communication networks, enables to simultaneously connect to a basic access network for executing signaling communication in which communication is controlled so as to be continuously switched and to a wireless access network for executing data communications other than the signaling communication and comprises wireless communication terminals and a wireless communication server, characterized in that:

each of the wireless communication terminals comprises a seamless application processing unit for executing connection processing to the basic access network and connection/disconnection processing to and from the wireless access network, an audio application processing unit for transmitting and receiving audio data through the wireless access network, a video application processing unit for transmitting and receiving video data through the wireless access network, a client processing unit having a client function in the signaling communication for controlling the audio application and the video application, a multicast communication node application processing unit for setting multicast reception using at least the two kinds of the wireless communication networks, respective network devices

corresponding to the respective wireless communication networks, and position obtaining means of the wireless communication terminals; and

the wireless communication server comprises a home agent application processing unit for setting a multicast transmission using at least the two kinds of the wireless communication networks, a basic access network server processing unit for notifying, when the wireless communication networks are continuously switched, the wireless communication terminals of a wireless communication network acting as a switching candidate and managing the signaling communication for communicating the status of the respective wireless communication terminals therebetween and managing the registration/update processing of the respective wireless communication terminals, a relay server processing unit for managing relay of the signaling communication for communicating the status of the respective wireless communication terminals therebetween, a terminal status table for managing the status of the respective wireless communication terminals, and a terminal configuration table for managing the wireless communication networks implemented in the wireless communication terminals, wherein the seamless application processing unit obtains position information from the position obtaining means and notifies the basic access network server

processing unit of the position information, and the basic access network server processing unit registers the position information to the terminal status table.

2. A wireless communications system according to claim 1, wherein, in the wireless communication terminals, the seamless application processing unit monitors the connection status of the respective wireless communication networks at a predetermined cycle based on a list of the wireless communication networks previously recorded to the wireless communication terminals.

3. The wireless communications system according to claim 1 or 2, characterized in that:

the wireless communication server comprises two servers of,

a home agent server comprising the home agent application processing unit and a resource server comprising the basic access network server processing unit, the basic access network server processing unit, the relay server processing unit, the terminal status table, and the terminal configuration table,

wherein, the home agent server is provided with a proxy server processing unit for relaying communication between the seamless application processing unit and the basic

access network server processing unit.

4. A wireless communications system according to any of claims 1 to 3, wherein:

the wireless communication terminals are registered to the relay server processing unit together with the position information thereof; and

each of respective client processing units transmits a subscribe request signal to an opponent client processing unit between two optional registered wireless communication terminals and the client processing unit which receives the subscribe request signal directly responds its information to an opponent and establishes connection between the wireless communication terminals.

5. A wireless communications system according to claim 4, wherein the audio application processing unit and the video application processing unit establish direct connection to the audio application processing unit and the video application processing unit of the opponent wireless communication terminal.

6. A wireless communications system according to claim 5, characterized in that communication between audio application processing units is continuously switched to

communication between video application processing units by signaling communication between respective client processing units in response to the status change notification from the seamless application processing unit of the wireless communication terminal.